UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,902	01/29/2004	Kiyoshi Kohiyama	1448.1050	2615

21171 7590 03/07/2007 STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005	**EXAMINER** BITAR, NANCY

ART UNIT	PAPER NUMBER
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 January 2004</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>*1-21*</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>*1-21*</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>29 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>01/29/2004</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed. The title should mention the

distinctive feature(s) of the claimed invention.

2.   Claim 1 contains typographical error "for inserting the selected *grogram*" must be

replaced by "for inserting the selected *program*". Appropriate correction is required.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent
Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV,
reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional
> descriptive material." In this context, "functional descriptive material" consists of data structures and
> computer programs which impart functionality when employed as a computer component. (The
> definition of "data structure" is "a physical or logical relationship among data elements, designed to
> support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and
> Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited
> to music, literary works and a compilation or mere arrangement of data.

> When functional descriptive material is recorded on some computer-readable medium it becomes
> structurally and functionally interrelated to the medium and will be statutory in most cases since use of
> technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32
> F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a
> computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33
> F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in
> memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at
> 1760 (claim to a data structure per se held nonstatutory).

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer
> element which defines structural and functional interrelationships between the computer program and

the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

4.   Claims 15-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 15 defines a computer program embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed a computer program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" or equivalent in order to make the claim statutory.   Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 U.S.C. § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1-3,5-10,12-17,19-21 are rejected under 35 U.S.C. § 102(b) as being anticipated by Demos (US 6,957,350).

As to claim 1, Demos et al. teaches an apparatus for creating image processing program, comprising (watermarking has the goal of placing a symbol and/or serial number style identification marks on the image stream which are detectable to analysis, but which are invisible or nearly invisible in the image, column 22, lines 45-49): a program selecting unit that selects at least one watermarking program from among a plurality of watermarking programs for inserting electronic watermark data(step 1400, figure 14) into moving image data that are encrypted, compressed, or both encrypted and compressed (encryption and watermarking the compressed data, column 21, lines 5-67) ; an area selecting unit that selects at least one area (it is better to watermark the larger number of B frames , column 22, line 60 and figure 7) for inserting the selected program from among a plurality of areas(watermarking as a function of unit dependency with respect to I,P,B frames, column 22, lines 55) in a processing program that performs decrypting, expanding, or both decrypting and expanding the moving image data(key management, encryption/decryption, column 28, lines 31-67); and a program inserting unit that inserts the watermarking program selected into the area selected (step 1401, figure 14).

As to claim 2, Demos et al. teaches the apparatus according to claim 1, wherein the program selecting unit selects the watermarking program at random, and the area selecting unit selects the area at random (random variations from the master to uniquely create each watermark, column 22, lines 17-27).

As to claim 3, Demos et al.teaches the apparatus according to claim 1, wherein the electronic watermark data include information unique to an image processing apparatus that executes the processing program (Tying encryption to specific media and/or a specific target location or serial number, column 30, lines 20-27).

As to claim 5, Demos et al.teaches the apparatus according to claim 1, further comprising: a parameter determining unit that randomly determines a parameter necessary to operate the watermarking program selected(The MPEG-2 parameters "lower. sub.-- layer. sub.-- prediction. sub.-- horizontal&vertical offset" parameters used as signed negative integers, combined with the "horizontal&vertical.sub.-- subsampling.sub.-- factor.sub.-- m&n" values, can be used to specify the enhancement layer rectangle's overall size and placement within the expanded base layer, column 14, lines 38-45)

As to claim 6, Demos et al.teaches the apparatus according to claim 1, further comprising: a program rewriting unit that rewrites a jump destination specified by a jump instruction in the processing program from any one of the watermarking programs inserted by the program inserting unit into another watermarking program (The process then repeats for a next unit. Of course, a number of the steps may be carried out in different orders, particularly steps 1400 and 1402, column 28, lines 14-29)

As to claim 7, Demos et al.teaches the apparatus according to claim 6, wherein the program-rewriting unit rewrites the jump destination during an execution of the

processing program (note that the computer program execute one or more

programmable computers which include the encryption technique, column 27, lines 57-

68).

Claims 8-10,12-14 differ from claims 1-7 only in that claim 8-10,12-14 are method

claims whereas, claims 1-7 are an apparatus claim. Thus, claims 8-10,12-14 are

analyzed as previously discussed with respect to claims 1-7 above.

Claims 15-17,19-21 differs from claims 1-7 only in that claim 15-17,19-21 are

computer claims whereas, claims 1-7 are an apparatus claim. Thus, claims 15-17,19-21

are analyzed as previously discussed with respect to claims 1-7 above.

Claim Rejections - 35 U.S.C. § 103

7.   The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically

disclosed or described as set forth in section 102 of this title, if the differences

between the subject matter sought to be patented and the prior art are such that

the subject matter as a whole would have been obvious at the time the invention

was made to a person having ordinary skill in the art to which said subject matter

pertains. Patentability shall not be negatived by the manner in which the

invention was made.

8.   Claims 4-11-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable

over Demos et al. and in view of Ciacelli et al. (US 6,236,727).

While Demos et al meets a number of the limitations of the claimed invention, as pointed out more fully above, Demos teaches GOP can have the benefits of unique treatment and modularity, and can be decoded and/or decrypted in parallel or out-of-order with other GOPs in non-real-time or near-real-time (slightly delayed by a few seconds) applications (such as electronic cinema and broadcast). The final frames need only be ordered for final presentation, column 23, lines 1-16) but fails to specifically teach that the watermark include a unique tamper resistance module. Specifically, Ciacelli et al. teaches the use the tamper resistance algorithm 114 can be employed to protect the subsequent encryption process, column 6, lines 54-67) .Because the use of tamper resistance algorithm in MPEG video decoder 128 to get extensive encryption in order to protect the data. It would have been obvious to one of ordinary skill in the art to use Ciacelli tamper resistance in Demos encryption process in order to protect against unauthorized copying or modification thus increasing authenticity, integrity and establishing the origin of the data. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

Claim 11 differs from claims 4 only in that claim 11 is method claim whereas, claims 4 is an apparatus claim. Thus, claim 11 is analyzed as previously discussed with respect to claim 4 above.

Claim 18 differs from claims 4 only in that claim 18 is a computer claim whereas, claims 4 is an apparatus claim. Thus, claim 18 is analyzed as previously discussed with respect to claim 4 above.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Tanaka et al. (US 7,146,501) is cited to teach an electronic watermark which

contains a encryption key. An electronic watermark-inserting device inserts the

electronic watermark containing the encryption key into a first and second portion of

data

Ogino et al (US 7,031,942) is cited to teach an information signal reproducing

apparatus for reproducing an information signal from a recording medium on which the

information signal, including added copy control information is recorded, comprising a

first detector for detecting whether the information signal read out from said recording

medium is encrypted or not-encrypted and for producing an output representative

thereof; a second detector for detecting said copy control information from the

information signal read out from the recording medium and for producing an output

representative thereof; and a controller for selectively restricting reproduction of the

information signal based on the outposts of the first detector and the second detector.

Inquiries

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nancy Bitar whose telephone number is 571-270-1041.

The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Joseph Mancuso can be reached on 571-272-7695. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nancy Bitar   02/27/2007

JOSEPH MANCUSO
SUPERVISORY PATENT EXAMINER